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CSI: MATHEMATICS
Curriculum Support Information
A mathematics resource for parents, teachers, and students

GEORGIA DEPARTMENT OF EDUCATION
Kathy Cox, State Superintendent of Schools

Addition and Subtraction of Whole Numbers

Students will:
- Use mental math to add and subtract
- Use estimation to determine reasonableness of sums and differences
- Read, interpret, solve, and compose simple word problems dealing with addition and subtraction
- Use inverses to verify accuracy of computation
- Write and simplify expressions using symbols in place of numbers
- Represent, read, and name numbers from tenths to ten-thousands place

Classroom Cases:

1. Kim, Bud, and Sam each have a herd of cows. Kim has two black cows, four brown cows, and three red cows. Bud has three black cows, one brown cow, and four red cows. Sam has five black cows, three brown cows, and two red cows. How many cows does each person have? How many cows in all? Are the herds equal in size? How can we make them? Explain your thinking using words, numbers, or pictures.

Case Closed - Evidence:
Kim has 9 cows, Bud has 8 cows, and Sam has 10 cows; there are 27 cows in all. The herds are not equal in size. If Sam would give Bud a cow, the herds would be equal.

2. Suppose you found an old roll of 15 cent stamps and a roll of 33 cent stamps. Can you use a combination of 15 cent stamps and 33 cent stamps to mail a package for exactly $1.77?

Case Closed - Evidence:
If you use (4) 33 cent stamps and (3) 15-cent stamps, you can mail the package for exactly $1.77 because $.33 +.33+.33+.33+.15+.15+.15=$1.77.

Terminology:

Addend: a number being added. In 5 + 9 = 14, 5 and 9 are addends and 14 is the sum.

Associative Property of Addition: when there are three addends, the sum does not change regardless of which two numbers you group together first.
As in: 3 + 5 + 2 = (3 + 5) + 2 = 3 + (5 + 2) = 10; 8 + 2 = 3 + 7 = 10

Commutative Property of Addition: the order in which two numbers are added does not change the sum. As in: 9 + 7 = 16 and 7 + 9 = 16

Difference: the answer obtained when you subtract two numbers

Doubling: adding the same amount twice; or two times a number

Identity Property of Addition: when zero is added to any number, the sum is the original amount. Or, adding zero to any number does not change the number.

Inverses: operations that undo each other, such as addition and subtraction as well as multiplication and division.

Minuend: the number you subtract from.
As in: 522 – 367 = 155; 522 is the minuend.

Operations: addition, subtraction, multiplication, and division

Subtrahend: The number being subtracted.
As in: 522 – 367 = 155; 367 is the subtrahend.

Sum: the answer obtained when you add two numbers; total number of elements in the sets that were combined

Book'em:
12 Ways to Get to 11 by Eve Merriam
Domino Addition by Lynnette Long
Ten Sly Piranhas by William Wise
Mission Addition by Loreen Leedy
Elevator Magic by Stuart J. Murphy

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